

**AWARENESS OF COED STUDENTS IN THE
21ST CENTURY SKILLS**

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by

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APPROVAL SHEET

In partial fulfilment of the requirements in Education 412 (Research and Statistics 2), this thesis titled **AWARENESS OF COED STUDENTS IN THE 21ST CENTURY SKILLS** has been prepared by Harvey R. Padrigano, Jezzle F. Abing, Paul John A. Gillo, Prody M. Lacasa Jr., Melissa Jane R. Lamadora, Leo S. Llego, Riame R. Nadera and Jasmin Eunice V. Ogario, is hereby recommended for Oral Examination.

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**Harvey
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DEDICATION

This study is heartily dedicated to their Parents,

Guardian, Brothers, Sisters, Friends,

Teachers, Classmates, and

above all to Almighty

God

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ABSTRACT

TITLE: AWARENESS OF COED STUDENTS IN THE 21ST CENTURY SKILLS

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This investigation explored the awareness of COEd students in the 21st century skills. The respondents were one hundred twenty-eight third year Bachelor of Elementary Education students of the College of Education of Eastern Samar State University – Salcedo Campus.

The descriptive method of research was used and questionnaires were employed to determine the awareness of COEd students in the 21st century skills. Descriptive statistics such as frequency and percentage were used to treat the data.

Based on the information and outcomes presented and discussed, the study revealed the following: The profile of the student respondents showed that the greatest percentage of third year BEd students of the College of Education of ESSU-Salcedo were mostly females and most of them belonged to age ranging from 18 – 19 years old.

Meanwhile, on the level of awareness of the respondents in the 21st century skills, it was found out that majority of them were extremely aware in the following 21st century skills – collaboration skills, communication skills, self-direction skills and using technology as a tool for learning; while the following were the 21st century skills where majority of the respondents were found to be moderately aware – critical thinking skills and creativity and innovation skills.

In the light of the findings which were revealed in this study, the authors recommend the following: A continuous effort on engaging students in different activities such as peer tutoring, group works and projects, speech festivals, introspective and reflective activities, and hands-on

learning on the different technologies available in the university must be undertaken; a constant integration of HOTS question must be given by the instructors and subject professors in every lesson; for specific practical lessons, project method, problem-solving and authentic assessment tools should be appropriately and constantly used by the instructors and subject professors; instructors and subject professors must engage students in activities wherein they could enhance their awareness on the 21st century skills and concretize and apply those skills to specific situations.

Chapter 1

INTRODUCTION

Background of the Study

The 21st century is upon us. The role of educational institutions to prepare students for the type of skills needed for them to live and work in the 21st century has never been more crucial and there is a strong sense of urgency to equip our students for “jobs and technologies that don’t yet exist...in order to solve problems that we don’t even know are problems yet” (Crutcher, 2011). Educators everywhere are facing this challenge and the solution appears to be to work in partnerships with businesses and policymakers.

It is generally accepted that due to the ubiquitous presence of technology our society is developing towards an information or knowledge society. While the information society metaphor is associated with an “explosion” of information and information systems, the knowledge society metaphor primarily refers to economic systems where ideas or knowledge function as commodities (Anderson, 2008). Levy and Mundane (2004) argue that for tasks that are rule based computers are an easy substitute, but computers cannot easily replace humans in tasks that require the interpretation of complex patterns. These more complex tasks can be found in many jobs – for example, the truck driver that has to find his way to deliver goods and the physician diagnosing a patient. In both tasks humans cannot be replaced by computers, but they can be supported by computer-based information at low cost. Not the exchange on information as such has become important, but a particular understanding of information has become an important part of many jobs (Levy & Mundane, 2006). For this reason, new competencies - nowadays often referred to as 21st century skills - are being asked for.

Some skills demanded in the 21st century are: Critical Thinking Skills, Collaboration Skills, Communication Skills, Creativity and Innovation Skills, Self-Direction Skills, and Using Technology as a Tool for Learning. The conceptualization of these skills came from the International Innovative Teaching and Learning Study (Shear, Novais, Means, Gallagher, & Langworthy, 2010). This is also drawn upon the Deeper Learning framework from The William and Flora Hewlett Foundation (2010), and Partnership for 21st Century Skills (p21.org).

The prominent need for 21st century skills is a common issue across the globe. This need is mostly attributed to the changes in society, and more particularly, to the rapid development of technology and its impact on the way we live, work and learn. Through Information and Communication Technology our society is changing from an industrial society to an information or knowledge society (Voogt, 2008). While in the industrial society the main focus of education was to contribute to the development of factual and procedural knowledge, in the information or knowledge society the development of conceptual and meta-cognitive knowledge is increasingly considered important (Anderson 2008). Overall, economic and societal changes closely related to the recent developments in technology -and consequently in the characteristics of the jobs and the home environment-, seem to be regarded as the most important driving forces that call for 21st century skills.

Therefore, teachers must design strategies of effective teaching that would develop his or her students' 21st century skills, so, the students can be more flexible in dealing with whatever comes his or her way as supported by Stoltz, (2000) on his theory stating that the more resilient you are, the more effectively and constructively you respond to life difficulties and the more fulfilling life becomes.

The researchers found it very interesting to study the awareness of COEd students in the 21st century skills, of which findings basically provide information that will not only be beneficial for the researchers but also for the institutions that the study might be of concern.

In cognizance to these points of view, the researchers wanted to find out the level of awareness of the students in the College of Education of ESSU-Salcedo in terms of 21st century skills.

Statement of the Problem

This study aimed to determine the awareness of 3rd year BEED students of the College of Education in Eastern Samar State University- Salcedo Campus.

Specifically, this study aimed to answer the following questions:

1. What is the demographic profile of 3rd year BEED students of ESSU-Salcedo Campus in terms of :
 - 1.1 Gender
 - 1.2 Age
2. What is the level of awareness of 3rd year BEED students of ESSU-Salcedo Campus in the 21st century skills in terms of:
 - 2.1 Critical Thinking Skills;
 - 2.2 Collaboration Skills;
 - 2.3 Communication Skills;
 - 2.4 Creativity and Innovation Skills;
 - 2.5 Self-Direction Skills;
 - 2.6 Using Technology as a Tool for Learning?

Significance of the Study

The research focused on investigating the awareness of 3rd year BEED students of the College of Education of ESSU-Salcedo Campus on the 21st century skills. The outcomes of the study may put forward various educational implications, which may be implemented by the following group of persons:

To the School Heads. As the head and manager of the institution, the findings of this study would help give him or her insights on how to have educational plans that are supportive to the students' progress in the academe and the co-curricular activities which will need the application of the skills needed in the 21st century and also to raise awareness of these skills among the students in the institution.

To the Teachers. The finding of this study would make teachers aware of how effective he or she is in his or her instruction most especially how effective are his or her methods and approaches in gradually heightening the awareness of the students in the 21st century skills. The finding of this study would also be an avenue for organizing new strategies of raising awareness on the 21st century skills among his or her students.

To the Parents. The result of this study would encourage parents to work cooperatively with teachers and give their full support to the teacher on invigorating their children's 21st century skill development.

To the Researchers. The finding of this study could be used as a guide and a basis of comparison of related studies in whichever study that they may engage in the future of which is in relation with this study.

Theoretical Framework of the Study

This study is anchored on the Theory of Connectivism (Siemens, 2004) proposing that technology and making connections in learning are linked - a combination of connectivism and constructivist methods: Learning processes previously confined to learning theory can now be

actively supported by technology. And which is also anchored on Self-Awareness Theory (Duval and Silvia 2001) which states that “**Self-awareness is the capacity** to take oneself as the object of thought—people can think, act, and experience, and they can also think about what they are thinking, doing, and experiencing”.

In support to this, Solomon and Schrum (2007) suggest that current educational trends based on standards and tests lean towards teacher-driven instruction, while the required 21st century skills of higher order thinking skills, application of technology, and adapting to change and workplace skills, among others, required new methods and new assessment measures. The challenge for teachers according to these authors is to find ways to support in-depth learning and increased student achievement, "...while also employing a variety of measures, including standardized tests."

Furthermore, current mobile technology challenges instructional design even further as it demands a totally different approach to instructional design and also teaching methodology. It requires fluidity never before seen and new skills from both teacher and student. In fact, while we focus on the skills needed for students in the 21st Century, we must discuss more and learn more about the skills required of teachers in the 21st Century (Reynard, 2008).

Much has been discussed about the new roles teachers and students play in learning environments created by using new technology and the types of skills required of students in this century. Those skills tend to be softer skills like team building, cooperative communication strategies, self-direction, and the academic skills of critical and applied thinking, new knowledge construction and collaborative learning techniques. Alongside this is another sociological discussion currently in progress attempting to define millennial students; their characteristics, expectations, and preferences in life and learning (Howe, Strauss & Matson 2000; Howe & Strauss, 2006). Much has been and is being written about how the new student characteristics should affect

instructional design and increase technology use. Not so much, however, is being discussed about how these kinds of changes should affect assessment and the recognition in terms of academic value of the skills that are being developed in the learning process.

Conceptual Framework of the Study

Figure 1 shows the schematic diagram of the variables that was used in the study. The input variables were the demographic profile such as gender and age as well as the 21st century skills such as Critical Thinking Skills, Collaboration Skills, Communication Skills, Creativity and Innovation Skills, Self-Direction Skills, and Using Technology as a Tool for Learning. Collection of data was made to come up with the awareness of COED students in the 21st century skills which was the output of the study.

The Scope and Delimitation of the Study

This study focused primarily on determining the awareness of 3rd year BEED students of the College of Education of ESSU-Salcedo Campus.

The study was conducted at ESSU-Salcedo specifically in the College of Education. Respondents of this study were randomly selected in the 3rd year Bachelor of Elementary Education (BEED) students' population. This study was conducted during the first semester of the school year 2016-2017 specifically in the month of July and a modified survey questionnaire was administered to determine the awareness of COED students in the 21st century skills.

Descriptive survey method was used as the method of research in this study.

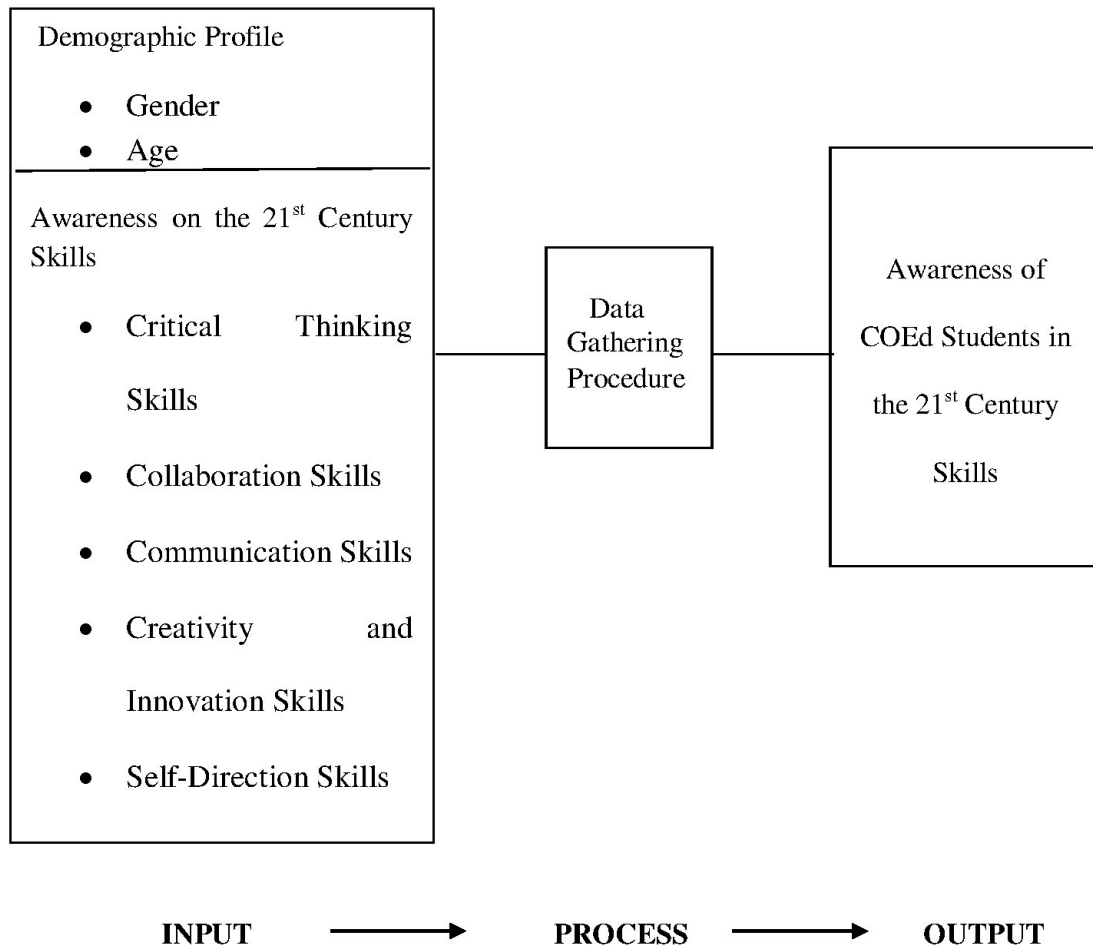


Figure 1. Schematic Diagram Depicting the Conceptual Framework of the Study

Definition of Terms

This section presents the operational and conceptual definition of terms on this study.

21st Century Skills. This refers to a broad set of knowledge, skills, work habits, and character traits that are believed – by educators, college professors, employers, and others – to be critically important to success in today's world, particularly in collegiate programs and contemporary careers and workplaces (edglossary.org, 2015). In this study, it refers to the 21st century skills listed in the questionnaire in order to find out the level awareness of COEd students in such skills which is demanded in the 21st century; or if they know the skill and they understand and manifest it in dealing with life in the 21st century.

Age. This refers to the length of time that somebody or something has existed, usually expressed in years (Encarta, 2009). In this study, it refers to the chronological age of the respondents.

Awareness. This refers to the state of having or showing realization, perception, or knowledge of something (Merriam-Webster, 2012). In this study, it refers to the level of how informed or knowing the respondents regarding 21st century skills after they answered the questionnaire.

Collaboration Skills. Refer to students being able to work together to solve problems or answer questions, to work effectively and respectfully in teams to accomplish a common goal and to assume shared responsibility for completing a task (WVDE, 2012). In the study, this refers to the students' self-assessment if he or she is aware of or manifests certain skills of being able to participate collaboratively in a group to achieve a common goal based on the questions or statements given in the questionnaire

Communication Skills. Refers to students being able to organize their thoughts, data and findings and share these effectively through a variety of media, as well as orally and in writing (Ravitz, 2012). In this study, it refers to one of the skills of the students: if he or she manifests certain skills of being able to express himself/herself through different verbal and non-verbal media.

Creativity and Innovation Skills. Science is, by its nature, a creative human endeavor. Scientific and technical innovations are advanced through processes that build on previous knowledge and application of theory to real world situations. Modern societal and environmental challenges require new and creative scientific and technical approaches, as well as investigations that are cross- disciplinary. (Partnership for 21st century skills, 2009). In the study, this refers to one of the 21st century skills of which the students' manifests through skillful application of his knowledge to create and innovate something.

Critical Thinking Skills. This refers to an exercise of careful judgments, judicious evaluation about something (Merriam – Webster, 2012). In this study, it refers to one of the skill that are asked to the students if they are aware of being able to analyze complex problems, investigate questions for which there are no clear-cut answers, evaluate different points of view or sources of information, and draw appropriate conclusions based on evidence and reasoning.

Demographic Profile. This refers to an individual statistical condition with reference to site and density distribution and initial statistics (Merriam – Webster, 2012). In this study, it refers to the respondent's statistical condition in terms of age and gender of the respondents.

Gender. It is a classification of sex either male or female (Webster Dictionary, 2007). In this study, it refers to whether the respondent is male or female.

Self-Direction Skills. As the nature of science is to raise questions, science cultivates initiative and self-direction, and encourages lifelong learning. Curiosity motivates scientific thinkers to make careful observations and try things out as a way to seek answers' to questions and to develop solutions to identified problems. (Partnership for 21st century skills, 2009). In the study,

this refers to one of the 21st century skills asked to the student if they are able to be responsible for their own learning by identifying topics to pursue and processes for their own learning, and being able to review for their own work and respond to feedback.

Using Technology as a Tool for Learning. This refers to students being able to manage their learning and produce products using appropriate information and communication technologies (WVDE, 2012). In the study, this refers to one of the 21st century skills asked to the student if they are aware of being able to harness information from different technological equipment and be able to use it to further their learning.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

Reviewed by the researchers, this chapter presents the related literature and studies which helped in the conceptualization of the study.

Related Literature

On Demographic Profile. Unconscious stereotyping can often play a role in perpetuating the gender inequity in technology education (Harding, as cited in Sanders & Tescione, 2002). In 2000, the Northwest Educational Technology Consortium (as cited in Sanders & Tescione) defined several of these abovementioned stereotypes. First, teachers often assume boys are more interested in computers than are girls. Likewise, they presume girls do not like programming or are not interested in computers. Honey, Moeller, Brunner, Bennett, Clements, and Hawkins (1991) claimed that from a very early age, boys are expected and encouraged by their teachers to learn about machines, tools, and other technologies. On the other hand, many teachers do not expect girls to be familiar with technical matters. Sanders and Tescione alleged, teachers with these attitudes subtly transmit them to girls. Research has shown that stereotyping may be correlated to the teacher's gender (AAUW Educational Foundation, 2000).

When asked who is more interested in the mechanics of computer technology, the AAUW Educational Foundation found that 71 percent of male teachers chose male students and only one percent of male teachers chose female students. In contrast, 66 percent of the female teachers in the

study found male and female students about equal in ability to use the technology. Moreover, male teachers were more likely to describe their female students in passive and disinterested terms, while female teachers viewed girl students as more competent.

A review identified 45 research studies providing reliable assessments of the impact of careers education on the educational achievement of young people. Of these, which looked in total at the impact of 67 different interventions, 60% provided largely positive findings evidencing improvements in educational outcomes. Only one study suggested negative impacts. The remainder provided either mixed results or no clear patterns of achievement. The literature is strongly focused on secondary education with 44 studies providing comment on careers-focused mediated provision received by pupils between the ages of 12 and 19. Looking at specific interventions, four areas have been investigated by five or more studies: leadership, mentoring, careers provision, and work-related learning.

The literature reviewed here has relatively little to say about why interventions related to careers-focused education have, on average, positive impacts on the attainment of young people. It does, however, broadly support the hypothesis that careers education helps young people to better understand the relationship between educational goals and occupational outcomes, increasing pupil motivation and application. Studies suggest that higher levels of attainment can be expected when specific groups of young people engage in interventions, or when interventions are delivered in specific ways.

On Awareness of 21st Century Skills. Self-awareness is the capacity to take oneself as the object of thought—people can think, act, and experience, and they can also think about what they are thinking, doing, and experiencing. In social psychology, the study of self-awareness is traced to Shelley Duval and Robert Wicklund's (1972) landmark theory of self-awareness. Research since the 1970s has strongly supported self-awareness theory (Duval and Silvia 2001).

When people focus attention on the self, they compare the self with standards, try harder to meet standards, and show stronger emotional responses to meeting or failing to meet a standard. The tendency to change the self to match a standard depends on other variables, particularly perceptions of how hard it will be to attain the standard. Remarkably, many experiments have shown that when people are not self-focused, their actions are often unrelated to their personal standards—self-awareness is needed for people to reduce disparities between their actions and their ideals.

Dubrin (2007) defined self-awareness as, "insightfully processing feedback about oneself to improve one's effectiveness". Baron and Byrne (1991) wrote that individuals who have a high level of self-awareness are better able to recognize and articulate their mood and to use the information to guide their behavior. They elucidated, "Enforcing self-awareness it appears is akin to saying to someone: 'Before you act, stop for a moment and think about who you are and what you believe to be true. In light of these thoughts, what course of action suits you best.'" In support, Le Tourneau (2000) cautioned that individuals are constantly challenged to redefine themselves based on societal and environmental pressures. While levels of self-awareness vary by individual, those with higher levels of self-identify rely less on the feedback of others than do those who are striving to define themselves.

Little is known about the development of critical thinking skills and dispositions over time. The APA, for example, has specifically cautioned that its framework for critical thinking should not be interpreted as implying any kind of developmental progression or hierarchical taxonomy (Facione, 1990). A few empirical studies have investigated the evolution of critical thinking skills and abilities as students proceed through college. O'Hare and McGuinness (2009) found that the critical thinking scores of third-year university students in Ireland were significantly higher than the corresponding scores of first-year students. The authors speculated that attending university exerts an independent effect on the development of critical thinking. In a meta-analysis of eight studies from 1991 to 2000, Gellin (2003) concluded that college students who engaged in activities

such as interacting with faculty and peers, living on campus, and participating in college clubs or organizations increased their measured critical thinking skills by standard deviations as compared to college students who did not participate in such activities.

It is believed that with good critical thinking ability, college graduates can be better prepared to compete and exercise their rights and responsibilities of citizenship in a global community. The importance of this belief has been re-emphasized recently due to the change of workforce and the demands of the global workplace. In an Association of American College and Universities (AACU) report (2005),⁴ as few as 6% of college graduates were considered proficient in critical thinking. Three years later, in a survey conducted on behalf of AACU (2008) ⁵ on “How Should College Assess And Improve Student Learning?” most employers stated that the majority of college graduates were not prepared in the key areas such as critical thinking, writing, self-direction and global knowledge which are most in need of improvement if promotion is desired. Though critical thinking has been listed as a core area to be cultivated and assessed in higher education for decades, critical thinking instruction still needs to be carried out more systematically and explicitly in college classrooms so that the students’ employability can be enhanced.

Meanwhile, collaboration can have powerful effects on student learning, particularly for low achieving students. These effects are seen in the form of higher scores on work completed collaboratively, even when students turn in separate products. In addition, there appears to be a carry-over effect, such that individual performance on subsequent measures of achievement tends to be higher for students exposed to collaborative learning. However, a number of factors may moderate the impact of collaboration on student learning, including student characteristics, group composition, and task characteristics. For example, patterns of interaction as well as the effects on subsequent performance vary across males and females, with boys participating more actively and appearing to benefit more from collaborative learning than girls. Similarly, high ability students may participate more actively than low-ability students. Group composition, with respect to gender

and ability, is also an important factor. Thus, heterogeneous groups featuring a narrow ability range appear most successful, as do groups that have a balance of girls and boys. Finally, task characteristics, such as the degree of role interdependence, and task and reward structures can impact the types of group processes used.

Several research reviews and meta-analyses have shown that there are positive medium-to-high effects of group collaboration on several important student outcomes, such as academic achievement, motivation and effort, and engagement in learning (Hattie, 2009; Johnson et al., 2000; Webel, 2013; Williams, 2009). These positive effects also appear to be robust across most subject areas, student age groups, and types of outcomes (Hattie, 2009). Of the eight categories revealed in a meta-analysis of teaching practices promoting achievement in science, Schroeder, Scott, Tolson, Huang, and Lee (2007) found student collaboration to have the second strongest effect ($ES=0.95$) of all of the teaching practices studied.

Engineering curriculum should integrate writing and verbal discussion consistently in substantive ways. Institutions should not view communication skills as separate entities; instead, faculty members should incorporate fully such skills into the engineering curriculum and its requirements. They must prepare students for a significant challenge they will face in adopting these significant learning outcomes into their engineering curriculum. At the speed at which technological advances are changing society and the workplace requires students to possess a greater number of personal skills with which they can effectively cope with the increasing demands placed upon them in the workplace. Pappas & Lesko stressed that changes in the nature of 200 work, methods of communication, lifestyle, and demands on time and commitment force us to reconsider how we will live in an increasingly technological society. Individuals need to grow in concert with these technological changes in order to adjust to it, and have some influence on this new social order. The society is at the threshold of yet another period of unparalleled growth and

change, and the engineering curricula need to prepare students not simply for the technical work they will do in the workplace, but for the engineering lifestyle they will live (2001).

According to the findings in Urrutia & Vega (2006) study, the majority of students considered that speaking is the most complicated ability to work out; also, the researchers noticed that students sometimes spoke English, but the majority of the did not speak during the English class. Oral participation in the study involved relevant factors, such as: vocabulary, timidity and fear of being embarrassed. 58% of students expressed that they preferred games to be implemented in the English class for which researchers noticed that students tried to improve their oral participation when they were using games; in addition, from student's perspectives, Urrutia & Vega state that games allow "cooperation, involvement, self-confidence, knowledge of vocabulary, better English understanding, improvement of pronunciation and speaking", and from teacher's perspectives, the authors illustrate that games develop "motivation, improvement in speaking participation, and free & confident student's performance".

It follows, then, that innovation begins with creativity. In the world of organizations, be they private or public, lack of either leads to stagnation, and leaves an organization unable to perform or meet change.⁷ However, creative thinking cannot be turned on and off at the flick of a switch. And innovation does not occur in a vacuum; it requires effective strategies and frameworks, among which incentives are paramount. Creativity flourishes in organizations that support open ideas: these organizations create environments that inspire personnel and maintain innovative workplaces; those that fail are large organizations that stifle creativity with rules and provide no slack for change. There is a role for management in the creative process: but it is not to manage it; it is to manage for it. Why? Because creativity does not happen exclusively and tacitly in a person's head but in interaction with a social context wherein it may be codified. For any organization, operating in an external environment, an interactionist model of creativity and innovation needs to encompass organizational context, organizational knowledge, and inter- and intra-organizational

relationships, not forgetting the (increasingly multicultural) creative makeup of the individuals (antecedent conditions, cognitive style, ability, intrinsic motivation, knowledge, personality) and teams (group composition, characteristics, and processes) who operate in it. (Asian Development Bank, 2009)

The information explosion triggered by ICT requires new skills for accessing, evaluating, and organizing information in digital environments. At the same time, in societies where knowledge has a central value it is not enough to be able to process and organize information, but also to be able to model and transform it to create new knowledge or to use it as a source for new ideas. Typical skills in this dimension are research and problem solving skills as they both involve at some point defining, searching for, evaluating, selecting, organizing, analyzing, and interpreting information. Further, research evidence suggests that ICT applications make up a particularly appropriate environment for higher order abilities such as management, organization, critical analysis, problem resolution and the creation of information (Balanksat et.al., 2006; Kirriemur & McFarlane, 2004; Sefton Green, 2002; Rosas et.al.2002; Cox, 1997; Bonnet et.al, 1999). In fact, evidence associated with what has been called the Flynn effect (Flynn, 2007) indicates that changes that are the product of modernity – such as activities with greater intellectual demand, greater use of technology, and smaller families – show that people today are much more used to thinking in terms of abstract concepts, such as hypothesis and categories, than they were a century ago. This is expressed by the progressive increase in new generation's performance in intelligence tests, creating a phenomenon of "massification" of intellectual abilities that were previously limited to the top section of the population.

Carl Rogers wrote these wise words in 1969-- 45 years ago. Certainly, they are even more pertinent today, as the extent and pace of change have rapidly escalated. One small example: since 1969, we have moved from a world in which there were only four (yes, 4) internet connections (all in California) to nearly 13 billion connections around the globe. According to the Cisco

Connections Counter, more than 100 connections are being added per second, and 50 billion connections are expected by 2020.

Education at any level has normally been based on some image of the future; that was not impossible in a world that was changing slowly. Today, educators are preparing learners for a world we cannot even predict, and self-directed learning has become an essential foundation for 21st century learners.

From elementary schools to universities and from individual training and development offerings to corporate universities, developing self-direction in learning is now recognized as a major purpose of education. Assisting learners to build skills and abilities for lifelong, self-directed learning as they acquire content knowledge is the best preparation for the lifelong, self-directed learning our world now requires.

Self-directed learning ability is often regarded as a valuable skill in workplaces and school settings (Taylor, 1995; Murane & Levy, 1996; Rees & Bary, 2006). People with a high level of self-directed learning ability are self-motivated learners who can employ any learning resources to solve problems in learning tasks (Brockett & Hiemstra, 1991; Candy, 1991). Regardless of the types of learning environments, highly self-directed learners are good at problem solving in terms of knowledge acquisition and management (Merriam & Caffarella, 1991; Gibbons, 2002).

Moreover, a key transition over the history of information technology has been in the shift from passive audiences to active users. Digital technologies permit users unprecedented control over the content they consume and the place in and pace at which they consume it. At the heart of effective technology integration practices, digital technologies offer learners greater opportunities to be more actively involved in the learning experience.

Related studies

On Demographic Profile. Historically, there have been two main approaches to educational gender or sex differences in western cultures. The first is conservative in the sense that social and cultural difference between men and women is seen as biological, natural and therefore unchanging. In many cultures and at many periods in history, this perspective went unchallenged, underpinned by a large literature focusing on women's inferiority. (Education, Audiovisual and Culture Executive Agency, 2010) In support to this, a study in Harvard University showed that there is greater tendency for males to dominate in some classes since talkativeness studies in general have concluded that men dominate mixed discussion groups everywhere -- both within the classroom and beyond and that male domination appeared to depend on gender demographics: when the teacher was male and the students in a particular class were predominantly male, then male students dominated the discussions. In none of the demographic circumstances studied did women students talk as much as men. (Krupnick, 2002)

According to a recent Georgetown University study, one of the female-dominated majors are related to elementary education. Some women may choose these female-dominated majors because they offer more convenience, according to Reynolds (2012).

Using a longitudinal study over a period of several decades, Schaie (1994) noted that scores on primary mental abilities improved gradually until about age forty at which time the abilities tend to stabilize until approximately age sixty. The decreases are small until the mid-seventies at which time scores are usually measurably lower than they were in the mid-twenties. Therefore, when a composite measure of mental abilities is used, learning ability does not decrease until the sixth or even seventh decade for most individuals. The significance of this seminal study seems to be that noticeable overall mental decline in the primary abilities does not generally occur until later in life.

Additionally, it should be noted that research pertaining to the secondary mental abilities usually focuses on two: fluid intelligence and crystallized intelligence (Cavanaugh, et. al., 2002). Younger people perform at a higher level where rote memorization that is part of fluid intelligence is measured whereas older, more experienced people make up for this in what is called crystallized intelligence through better developed verbal abilities and judgment (Merriam, 2001).

Because of this factor, adult learners place a great deal of value on their experiences and if they cannot use those experiences, or, if those experiences are rejected, it may feel similar to being rejected as an individual. Related to this is the fear of failure that an adult learner may bring to the classroom, particularly if this is a new environment where they might fear further rejection from their peer group (Kennedy, 2003) or their instructor.

On Awareness of 21st Century Skills. As the world has transitioned from the 20th century Industrial Age to the 21st Information Age, there is an increasing awareness that the skills that led to success in the 20th century are no longer sufficient to lead to success and prosperity in the 21st century. For students to develop their capacity to engage in critical thinking and problem solving in the 21st century work place, they need to be explicitly taught the relevant skills. Facione (2011) puts it even more emphatically when he asserts that critical thinking is essential for harmonious human society.

Kompef and Bond (2001) asserted that it is important to train children in critical thinking because it helps them to engage in rational thinking, reasoning, developing knowledge, applying their intelligences and reflection.

Research demonstrates that, contrary to popular faculty belief, critical thinking is not fostered in the typical college classroom. In a meta-analysis of the literature on teaching effectiveness in higher education, Lion Gardiner, in conjunction with ERIC Clearinghouse on

Higher Education (1995) as cited by Paul (2004) documented the following disturbing patterns: "Faculty aspire to develop students' thinking skills, but research consistently shows that in practice we tend to aim at facts and concepts in the disciplines, at the lowest cognitive levels, rather than development of intellect or values."

Several leaders in the field of critical thinking and problem solving, including Dewey, (1910) Le Cornu, (2009), Facione, (2011) and Reynolds, (2012) identify several areas in which students need training so as to develop critical thinking and problem solving skills. They include open-mindedness, observation, being aware of gaps in information and consciously raising questions, distinguishing between observation and inference, and between fact and conjecture. They also recommend providing training in how to draw inferences from data, how to probe for underlying assumptions, developing hypotheses and testing them, engaging in inductive or deductive reasoning to derive what data really mean.

Johnson, et al., (2014) as cited by Brame, et al., (2015) asserted that cooperative learning and collaboration is characterized by positive interdependence, where students perceive that better performance by individuals produces better performance by the entire group.

Meanwhile, in teaching its undergraduates collaboration, the University of Strathclyde in Glasgow (Strathclyde, 2014) gives a very good description of what collaborative skills involve. The description includes, giving and receiving feedback from peers or other team members in order to perform a common task, sharing credit for good ideas with others, acknowledging others' skill, experience, creativity, and contributions, listening to and acknowledging the feelings, concerns, opinions, and ideas of others, expanding on the ideas of a peer or team member, stating personal opinions and areas of disagreement tactfully, listening patiently to others in conflict situations, defining problems in a non-threatening manner, supporting group decisions even if not in total agreement.

Trilling & Fadel, (2009) stated that, to collaborate effectively in 21st century workplaces, graduates should be taught to work respectfully with different teams, not only in their physical workspaces, but also in their online interactions. They should be taught and encouraged to take on responsibilities for joint work with others. They should learn to value the ideas and contributions of every member of the team of which they find themselves part.

Trilling and Fadel (2009) suggest that to effectively teach 21st century communication skills, students should be taught how to articulate thoughts and ideas using oral, written and nonverbal communication skills, students should be taught how to engage in active listening, students should be taught how communication can be used for different purposes, students should be exposed to a wide range of media technologies and be taught how to use them, and they should be trained in communicating in diverse environments, including the use of a variety of languages other than their own.

In support, the high level of awareness of the student respondents on the skill conforms with the study of Durukan & Maden, (2010) stating that communication skills are being tried to be imparted in the educational levels and that the communication skills included in the curriculum, are that kind of skills that are needed to be imparted and effectively used in all disciplines.

On a study on 21st century skills, according to Anderson et al., (2001), the key to teaching creativity and innovation skills lies in creating quality learning environments that give learners the opportunity to solve authentic, real-world problems and to be inquisitive with an open mind. In such environments, learners are encouraged to utilize higher-order thinking skills that involve thinking outside the square, analyzing, evaluating, elaborating and creating. They are challenged to stretch their imagination so as to come up with new ideas using well-tested creative thinking strategies such as brainstorming, mind mapping, visual creativity, word association, SWOT analysis, and lateral thinking (IBSA, 2009).

This is in relation with the study of Silva (2008) that according to her “The intellectual demands of 21st century work, today’s leaders say, require assessments that measure more advanced skills, 21st century skills. Today, they say, college students, workers, and citizens must be able to solve multifaceted problems by thinking creatively and generating original ideas from multiple sources of information—and tests must measure students’ capacity to do such work.” However, based on the results of this study, the students were found to be moderately aware of the skill that’s why it conforms with the the study of Wegerif & Dawes, (2004) that according to them creativity and innovation skills can be developed, like other skills, with practice and over time.

With the advent of the changes in the 21st century Higgins, (2009) quoted in his study that it is, however, essential that learning to learn does become a key feature of the future of education, to ensure that at the heart of education is learning to be human and to take responsibility for one’s place in a society which encourages and enables participation by all its citizens, to enable them to fulfil their own potential and shape the future for subsequent generations.

E-learning, defined by (Lamb & Callison, 2005) is the accessing of information, instruction, and/or interaction through the Internet or Intranet using instructional materials and tools such as web-based resources, e-mail, discussion boards, blogs, chat or video. In 2008, the State of Hawaii’s House of Representatives passed legislation mandating that the Hawai‘i Department of Education increase e-learning opportunities for students by furthering the development of online programs (State of Hawai‘i House of Representatives, 2008).

Downes (2005), Anderson (2007) and Walton et. al. (2007) argues that learners’ familiarity with web 2.0 technologies opens up a new space for and style of learning. This new style of learning focuses on collaborative knowledge building, shared assets, problem solving, and the breakdown of distinctions between knowledge and communication (e.g., the production and utilization of

podcasts, blogs, videos, and interactive tutorials). Watson, Gemin, & Ryan (2008) argue that e-learning will transform all forms of education and learning in the 21st century.

This is in conformity with the study of Garcia (1994) as cited by Hollenbeck (2009) that according to him: information technology makes it possible to address learning preferences through creating learning environments that feature integrated and thematic curriculum, collaborative learning, and an emphasizing language acquisition and literacy skills to meet the challenge of cultural and linguistic diversity and that using technology is one effective method because it facilitates acceptance by encouraging cooperative learning and equal communication opportunities by the users (students).

According to Craft (2012) we stand at an intersection of embracing the changes brought by digital technologies or resisting the intrusion they bring into our daily lives, particularly as regards children and their best interests. In contrast, Pepper (2015) asserted that increasingly, technology plays an important role in the daily lives of children, both at home and at school however children's engagement with technology should not stand in competition with valuable time that could be spent in active and creative pursuit outdoors.

Ellis (2005) argues that a commitment to teaching 21st century skills will enable educational leaders to a) improve teaching an course quality, b) move to performance and competence based modes of learning, c) ensure that every student is college or work ready, and d) enable educators to be more flexible and creative in the ways they assist and engage students with learning disabilities and students that are needing a more challenging curriculum. Collaborative, computer-based learning environments can work to stimulate student learning and the process of inquiry (Wasson et al., 2003; Laurillard, 2009). McFarlane (2001) notes, "It seems that use of ICT can impact favorably on a range of attributes considered desirable in an effective learner: problem-solving capability; critical thinking skill; information-handling ability".

The above literature and studies incorporated herein produced varied and inclusive results about the topic of the study. The different literature complemented to the conceptualization of this study. On the other hand, the different related studies may have contradicted or may have affirmed to the results that this study might yield but these served as a guide for the researcher in the conceptualization of this study. In support to this, whatever the findings maybe, it will be beneficial not only to the researchers but also to the other research activities that this study may be in connection with.

Chapter 3

METHODOLOGY

This chapter presents the discussions of the methods and procedures used in the study. It includes the research design, locale of the study, respondent of the study, sample size determination, sampling procedure, instrumentation, instrument validation, data gathering procedure and data analysis.

Research Design

The researchers of this study employed the descriptive survey method. This refers to the method used to describe data and characteristics used to describe the population. The purpose of using the descriptive research method is to acquire accurate, factual and systematic data that could provide a factual picture of the data set.

A modified survey questionnaire was utilized to collect information relevant to the awareness in the 21st century skills of the COEd students in ESSU-Salcedo Campus.

Research Locale

This study was conducted in ESSU-Salcedo Campus during the 10th day of the month of August in the school year 2016-2017.

Respondents of the Study

The respondents of this study were one hundred twenty-eight 3rd year Bachelor of Elementary Education students who were officially enrolled during the first semester of school year 2016-2017. These students came from the College of Education of this university.

Sample Size Determination

With the use of Sloven's Formula, the sample size were determined. This means that the exact number of the respondents that were involved in this study were identified through this formula.

$$n = \frac{N}{1 + Ne^2}$$

Where: n = sample size; N = population size; e = 0.05 (margin of error).

The margin of error is at 5 percent and with a total population of 189 students and the sample size is 128.

Sampling Procedure

Simple random sampling using the Lottery Method was employed in this study in selecting the student respondents of the entire 3rd year BEED students of the College of Education in ESSU-Salcedo Campus. Using the Lottery Method, the population was arranged sequentially and was assigned with corresponding numerical identifications and were put into a revolving drum or closed container. Repeating the process, the numbers were tossed thoroughly to ensure that they were

thoroughly mixed and then one tab bearing a number was selected from the container, without the selector seeing the pool.

The researchers randomly distributed the questionnaire to the students who were in their respective classrooms.

Instrumentation

From an original questionnaire consisting of one part only, the researchers modified it into a survey questionnaire consisting of two parts by adding a part for the demographic profile of students. Thus, a modified survey questionnaire was used in this study in order to generate valid and reliable information about the study. Part I dealt with the respondent's demographic profile while Part II dealt on collected information on the level of awareness as adapted and modified from the survey instrument by (Ravitz, 2014). The responses of the respondents were indicated by simply checking the choices that corresponds to their profile by checking the boxes that corresponds on their awareness on the 21st century skills. The responses of the items in the questionnaire have assigned values or ratings according to the level of awareness of the students in the 21st century skills.

Instrument Validation

In order to ensure the administrability, usability and validity of the instrument, a dry run was conducted to 3rd BEEd students of ESSU – Guiuan to ensure the administrability, usability and validity to be used in the conduct of the study in the College of Education in ESSU-Salcedo Campus. After seeking permission, the questionnaire was distributed to 20 selected BEEd students on the month of July, 2016. This procedure enabled the researchers to determine errors and generate

comments and suggestions that are needed for further revision and modification of the questionnaire. This procedure ensured the validity and the reliability of the instrument.

Since there were no corrections and alterations on the questionnaire, the researchers then pursued to use the instrument in the study.

Data Gathering Procedure

A letter of request asking permission for the researchers to gather data was prepared and presented to the Dean of the College of Education of ESSU-Salcedo Campus. The letter of request was endorsed by the adviser of the researchers.

The researchers personally administered the questionnaires to all respondents to guide the respondents in answering so that if there will be items that are not fully understood by the respondents, the researchers could assist and facilitate clarification.

Measurement of Variables

To easily facilitate the computation of data, the following scales and scoring range were used with their corresponding interpretations.

For the gender of the students, the following categories were used:

<u>Code</u>	<u>Description</u>
2	Male
1	Female

For the age of the students, the following categories were used:

<u>Code</u>	<u>Description</u>
3	23 years – above
2	20 – 22 years
1	18 – 19 years

For the awareness of the students, the following categories were used:

<u>Code</u>	<u>Range</u>	<u>Description</u>
5	21 – 25	Extremely Aware
4	16 - 20	Moderately Aware
3	11 – 15	Somewhat Aware
2	6 – 10	Slightly Aware
1	1 – 5	Not at all aware

Data Analysis

The data that were collected from the respondents were tallied, tabulated and analyzed using the descriptive statistics such as frequency and percentage.

Chapter 4

RESULTS AND DISCUSSION

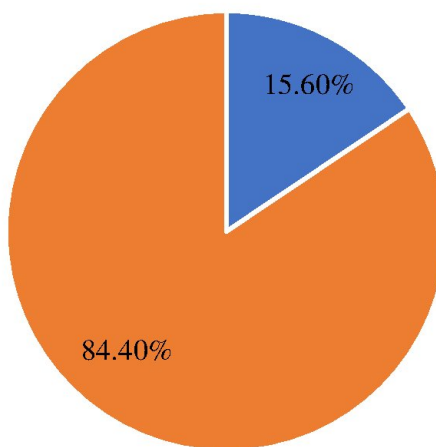
This chapter presents the results and findings of the study. Similarly, it presents corresponding analysis and interpretation based on appropriate statistical tool used to treat the collected data.

Demographic Profile of the Respondents

This study looked into the demographic profile of the respondents such as gender and age.

Gender. Table 1.1 manifests the gender of the respondents. It was observed that a greater portion of the respondents were females which comprised 108 or 84.4 percent of the population and 20 or 15.6 percent was composed of males.

Graph 1.1
Gender of 3rd Year BEEd Students in ESSU – Salcedo Campus during the
School Year 2016 – 2017



■ Male (20) ■ Female (108)

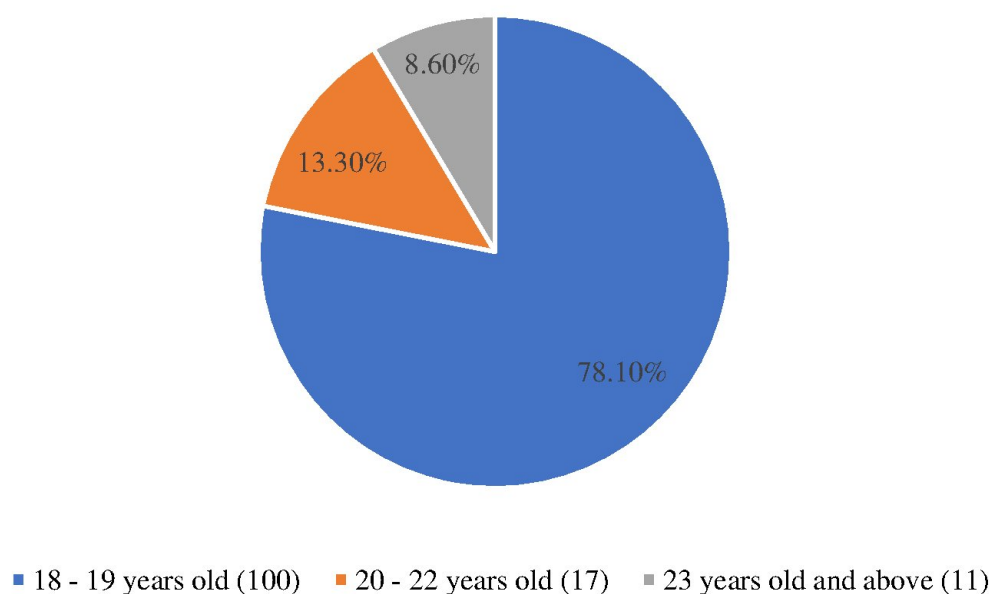
This implies that the 3rd year BEEd course in Eastern Samar State University – Salcedo Campus is dominated by females.

According to a recent Georgetown University study, one of the female-dominated majors are related to elementary education. Some women may choose these female-dominated majors because they offer more convenience, according to Reynolds (2012).

Age. The data on Table 1.2 shows the age of the respondents. From the table, it can be noted that most of the respondents belonged to the age bracket of 18 – 19 years old comprising 100 or 78.1 percent. There were about 17 or 13.3 percent aging from 20 – 22 years old. While, 11 or 8.6 percent of the respondents have ages from 23 years old and above.

Graph 1.2

Age of 3rd Year BEEd Students in ESSU – Salcedo Campus during the
School Year 2016 – 2017



This implies that majority of the 3rd year BEEd students of ESSU – Salcedo are still young.

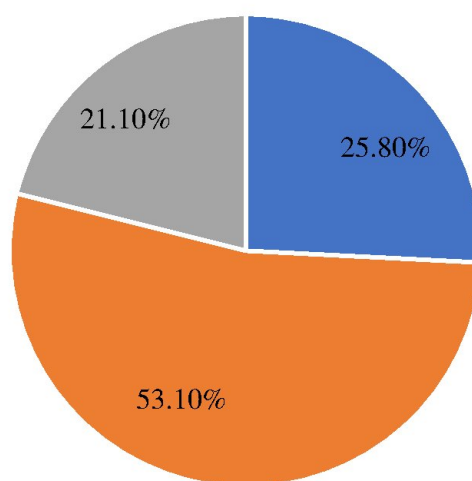
Awareness on the 21st Century Skills

The data reflected in the succeeding tables manifests the levels of awareness on 21st Century Skills of 3rd year BEEd students in ESSU – Salcedo Campus.

Critical Thinking Skills. As regards to critical thinking skills of 3rd year BEEd students in the 21st century skills of ESSU – Salcedo, Table 2.1 shows that 33 or 25.8 percent of the respondents were extremely aware, 68 or 53.1 percent were moderately aware, and 27 or 21.1 percent were somewhat aware of the skill.

Graph 2.1

Awareness of 3rd Year BEEd Students in ESSU – Salcedo Campus
On Critical Thinking Skills



■ Extremely Aware (33) ■ Moderately Aware (68) ■ Somewhat Aware (27)

This shows that the students enrolled in the course are still moderately aware of the critical thinking skills.

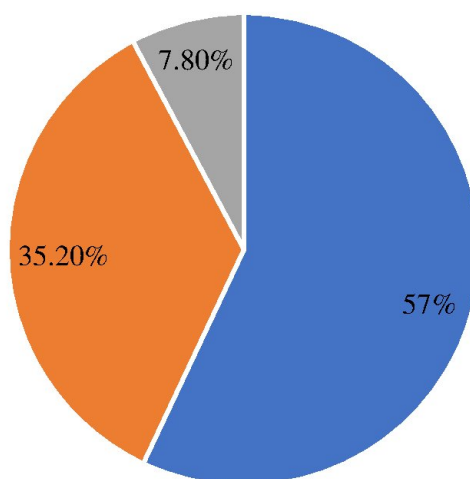
Research demonstrates that, contrary to popular faculty belief, critical thinking is not fostered in the typical college classroom. In a meta-analysis of the literature on teaching

effectiveness in higher education, Gardiner, in conjunction with ERIC Clearinghouse on Higher Education (1995) as cited by Paul (2004) documented the following disturbing patterns: "Faculty aspire to develop students' thinking skills, but research consistently shows that in practice we tend to aim at facts and concepts in the disciplines, at the lowest cognitive levels, rather than development of intellect or values."

Collaboration Skills. As to the awareness on collaboration skills of the of 3rd year BEEd students of ESSU – Salcedo, Table 2.2 shows that 73 or 57.0 percent were extremely aware, 45 or 35.2 percent are moderately aware, and 10 or 7.8 percent were somewhat aware of the skill.

Graph 2.2

Awareness of 3rd Year BEEd Students in ESSU – Salcedo Campus
On Collaboration Skills



■ Extremely Aware (73) ■ Moderately Aware (45) ■ Somewhat Aware (10)

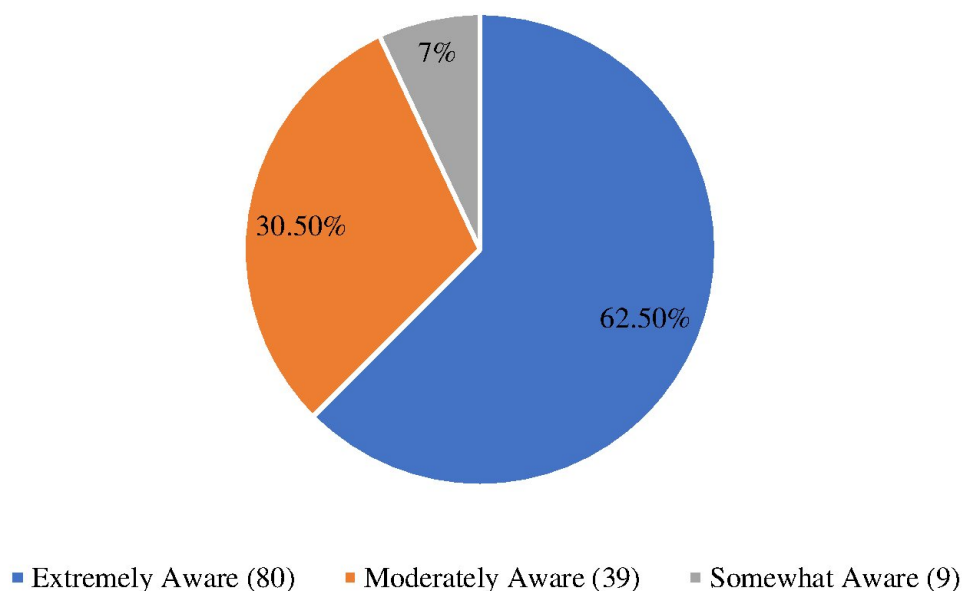
This data revealed that the 3rd year BEEd students are extremely aware of the skill.

This conforms to the study of Johnson, et al., (2014) as cited by Brame, et al., (2015) that cooperative learning and collaboration is characterized by positive interdependence, where students perceive that better performance by individuals produces better performance by the entire group.

Communication Skills. Table 2.3 manifests the awareness of 3rd year BEEd students of ESSU – Salcedo on communication skills. It depicts that 80 or 62.5 percent of the student respondents coming from the 3rd year BEEd course of the College of Education in ESSU – Salcedo were extremely aware of the skill. While 39 or 30.5 percent are moderately aware and 9 or 7.0 percent are somewhat aware.

Graph 2.3

Awareness of 3rd Year BEEd Students in ESSU – Salcedo Campus
On Communication Skills



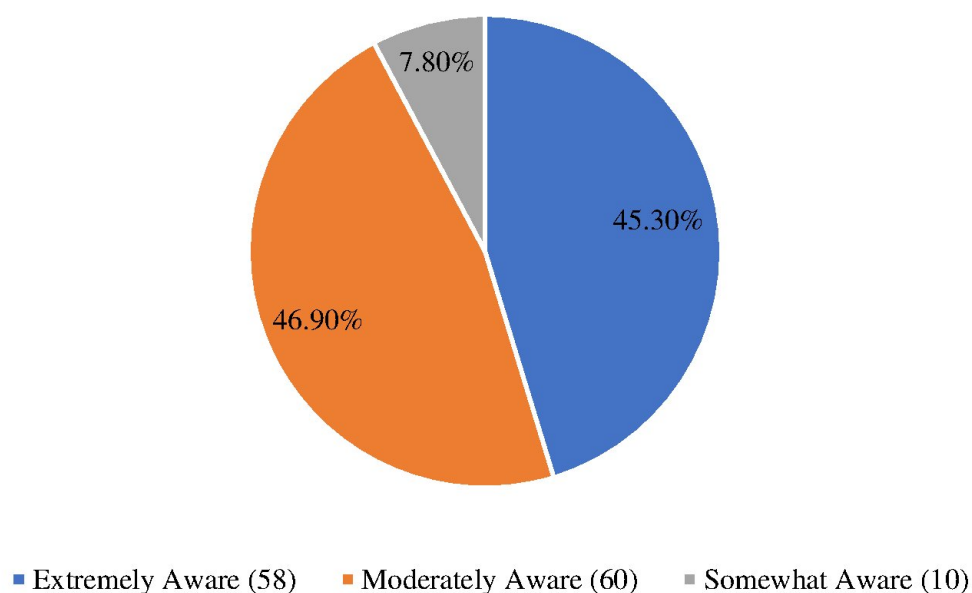
It can be gleaned from the table that majority of the respondents are extremely aware on the communication skills. This implies that they are aware of how to properly express themselves in any verbal or non-verbal form of communication.

The high level of awareness of the student respondents on the skill conforms with the study of Durukan & Maden, (2010) stating that communication skills are being tried to be imparted in the educational levels and that the communication skills included in the curriculum, are that kind of skills that are needed to be imparted and effectively used in all disciplines.

Creativity and Innovation Skills. As regards to creativity and innovation skills of 3rd year BEEd students in the 21st century skills of ESSU – Salcedo, Table 2.4 shows that 58 or 45.3 percent of the respondents were extremely aware, 60 or 46.9 percent were moderately aware, and 10 or 7.8 percent were somewhat are of the skill.

Graph 2.4

Awareness of 3rd Year BEEd Students in ESSU – Salcedo Campus
On Creativity and Innovation Skills

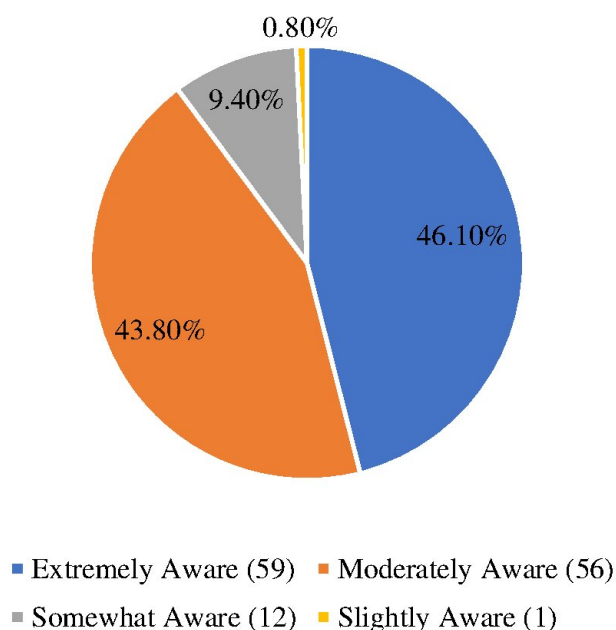


It can be denoted, based on the table, that the 3rd year BEEd students of the COEd of ESSU – Salcedo were moderately aware of the skill. This implies that the students are aware of how to be creative and how to innovate.

This is in relation with the study of Silva (2008) that according to her “The intellectual demand of 21st century work, today’s leaders say, require assessments that measure more advanced skills, 21st century skills. Today, they say, college students, workers, and citizens must be able to solve multifaceted problems by thinking creatively and generating original ideas from multiple sources of information—and tests must measure students’ capacity to do such work.” However, based on the results of this study, the students were found to be moderately aware of the skill that’s why it conforms with the study of Wegerif & Dawes, (2004) that according to them creativity and innovation skills can be developed, like other skills, with practice and over time

Self-Direction Skills. Table 2.5 manifests the awareness of the respondents on self-direction. The following data has been obtained and the researchers found out that 59 or 46.1 percent were extremely aware of the skill, 56 or 43.8 percent were moderately aware, 12 or 9.4 percent were somewhat aware, and 1 or 0.8 percent is slightly aware.

Graph 2.5
Awareness of 3rd Year BEEd Students in ESSU – Salcedo Campus
On Self-Direction Skills

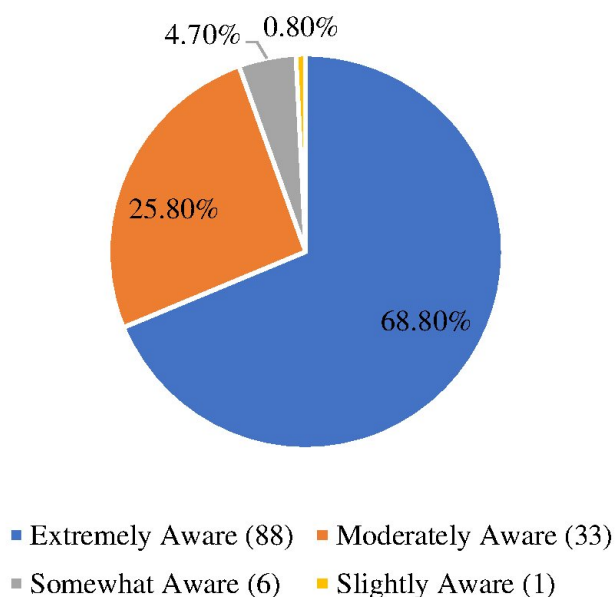


This implies that the difference in the percentage of the students that are extremely aware and moderately aware is very little and it means that students on their own level of awareness on the skill is high.

With the advent of the changes in the 21st century Higgins, (2009) quoted in his study that it is, however, essential that learning to learn does become a key feature of the future of education, to ensure that at the heart of education is learning to be human and to take responsibility for one's place in a society which encourages and enables participation by all its citizens, to enable them to fulfil their own potential and shape the future for subsequent generations.

Using Technology as a Tool for Learning. As to the awareness on self-direction skills of the 3rd year BEEd students of ESSU – Salcedo, Table 2.6 shows that 88 or 68.8 percent of the respondents were extremely aware, 33 or 25.8 were moderately aware, 6 or 4.7 were somewhat aware and 1 or 0.8 percent is slightly aware.

Graph 2.6
Awareness of 3rd Year BEEd Students in ESSU – Salcedo Campus
On Using Technology as a Tool for Learning



Especially as students are becoming increasingly digitally literate, this implies that a greater portion of the population of the 3rd year BEd students already have a high level of awareness in using technology as a tool for learning.

This is in conformity with the study of Garcia (1994) as cited by Hollenbeck (2009) that according to him: information technology makes it possible to address learning preferences through creating learning environments that feature integrated and thematic curriculum, collaborative learning, and an emphasizing language acquisition and literacy skills to meet the challenge of cultural and linguistic diversity and that using technology is one effective method because it facilitates acceptance by encouraging cooperative learning and equal communication opportunities by the users (students).

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the findings of the study. It also includes the conclusions and the proposed recommendations.

Summary

This study aimed to determine the awareness of 3rd year BEED students of the College of Education in Eastern Samar State University- Salcedo Campus.

Specifically, this study aimed to answer the following questions:

3. What is the demographic profile of 3rd year BEEd students of ESSU-Salcedo

Campus in terms of :

- 1.1 Gender

- 1.2 Age

4. What is the level of awareness of 3rd year BEEd students of ESSU-Salcedo

Campus in the 21st century skills in terms of:

- 2.1 Critical Thinking Skills;

- 2.2 Collaboration Skills;

- 2.3 Communication Skills;

- 2.4 Creativity and Innovation Skills;

- 2.5 Self-Direction Skills;

- 2.6 Using Technology as a Tool for Learning?

This study used the descriptive method of research where a survey questionnaire was utilized to gather the needed data to find out the level of awareness of the COEd students in the 21st century skills. This study was conducted to 128 3rd year BEEd students of the College of Education of ESSU – Salcedo who were officially enrolled during the 1st semester of the school year 2016 – 2017.

The researchers personally administered the survey questionnaires to collect data from the respondents. The data gathered were then tallied, tabulated and analyzed using descriptive statistics such as frequency and percentage.

Based on the information and outcomes presented and discussed, the study revealed the following findings:

As to the demographic profile of the students, majority of the respondents were females (84.4%) and were young adults ranging from ages 18 – 19 years old (78.1%).

In addition, on the level of awareness of the respondents in the 21st century skills, it was found out that majority of them were extremely aware in the following 21st century skills (with the corresponding percentage) – collaboration skills (57%), communication skills (62.5%), self-direction skills (46.1%) and using technology as a tool for learning (68.8); while the following are the 21st century skills where majority of the respondents were found to be moderately aware – critical thinking skills (53.1%) and creativity and innovation skills (46.9%).

Conclusions

Based on the results and findings of the study the following conclusions were drawn:

Majority of the respondents were females and young adults.

Respondents are extremely aware on collaboration skills, communication skills, self-direction skills and using technology as a tool for learning. On the other hand, they were moderately aware on critical thinking skills and creativity and innovation skills.

With regards to the respondents' extreme awareness on the four aforementioned skills, it can be attributed that they already have a high level of awareness on the concepts of how these skills should be properly and effectively manifested within themselves and thereby apply it inside and outside the classroom setting like collaborating with a certain group or a network of groups of individuals who aims to achieve a common goal, expressing themselves orally or in any other form of communication, setting goals for themselves and striving hard to achieve those goals, and to effectively use the available technologies in the locality as a tool for learning.

The fact that the respondents have moderate awareness on the two aforementioned skills, it can be attributed that they have not yet been effectively sensitized by their teachers on how these skills should be properly manifested within themselves. Thus, a greater effort should be made to increase the awareness of the students on critical thinking and creativity and innovation. The real challenge is to provide information in a motivating action for the students to be able to grasp the concept of how to think critically to enhance the neural connections in their mental faculties and how to create and innovate things to serve to their purpose.

Recommendations

In the light of the findings which were revealed in this study, the authors recommend the following:

- 1) A continuous effort on engaging students in different activities such as peer tutoring, group works and projects, speech festivals, introspective and reflective activities, and hands-on learning on the different technologies available in the university must be undertaken to keep up their high level of awareness on collaboration, communication, self-direction and using technology as a tool for learning.

- 2) A constant integration of HOTS question may be given by the instructors and professors in every lesson in order to promote critical thinking and increase their awareness on the skill among students; and they should be exposed to problem-solving activities for them to think critically and come up with solutions to the problems.
- 3) For specific practical lessons, project method and authentic assessment tools should be appropriately and constantly used by the instructors and professors in order to promote and develop creativity among students; and problem-solving method could also be used in order for them to think and innovate for solving mechanisms to answer given problems and situations.
- 4) Instructors and professors may engage students in activities wherein they could enhance their awareness on the 21st century skills and concretize and apply those skills to specific situations. To do this, they should be given more active rather than passive activities.
- 5) There should be a conduct of in-service trainings and seminars about 21st century skills for instructors and professors to keep them abreast with recent developments in education in the 21st century and for them to be able to acquire functional knowledge on “what” and “how” to employ activities, teaching methods, instructional materials and technology, classroom management techniques which is appropriate for the students’ development and exercise of the 21st century skills.
- 6) Further study may be conducted to about 21st century skills which will focus on the faculty’s awareness and application of the skills.

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APPENDIX A



Republic of the Philippines
EASTERN SAMAR STATE UNIVERSITY
 Salcedo Campus
 Salcedo, Eastern Samar

August 08, 2016

ESTELITA D. CALVO, Ed. D.
 Dean, College of Education
 This University

Madame:

Good Day!

We, the undersigned, will be conducting our study titled "**Awareness of COEd Students in the 21st Century Skills**" in the College of Education of this university.

In connection to this, we would like to ask permission from your good office for the conduct of our study in order to get necessary information with regards to our study which we plan to conduct on August 10, 2016.

We look forward to your positive and favorable response on this regard.

Very respectfully yours,

Harvey R. Padrigano
 Jezzle F. Abing
 Paul John A. Gillo
 Prody M. Lacasa Jr.
 Melissa Jane R. Lamadora
 Leo S. Llego
 Riame R. Nadera
 Jasmin Eunice V. Ogario

Noted:

MARINA S. MACASIL
 Adviser

Approved:

ESTELITA D. CALVO, Ed. D.
 Dean, COEd

APPENDIX B

Republic of the Philippines
EASTERN SAMAR STATE UNIVERSITY
Salcedo Campus
Salcedo, Eastern Samar

August 10, 2016

Dear Respondents,

We are the students of Eastern Samar State University – Salcedo Campus, Salcedo, Eastern Samar conducting this research titled "**Awareness of COEd Students in the 21st Century Skills**".

We would like to ask your valuable cooperation by answering the questionnaires presented to you. Your honest answer will contribute very much to the success of this study. Please be assured that the information will be kept in strict confidence and will only be used for the purpose of this study.

Thank you very much!

Very truly yours,

The Researchers

APPENDIX C

QUESTIONNAIRE FOR THE STUDENT

I. Demographic Profile of the Student:

Direction: Fill in with the needed information. Put a check (/) to indicate your answer on the item.

1. Name:

2. Gender: () Male () Female

3. Age: () 18 - 19 () 20 - 22 () 23 years – above

II. Awareness in 21st Century Skills (Ravitz, 2014)

Direction: The rest of this survey asks about your awareness about the following 21st century skills: Critical Thinking, Collaboration, Communication, Creativity and Innovation, Self-Direction, and Using Technology as a Tool for Learning. For each of the skills, you will be asked about the extent of your agreement to the statements given below for each skill by putting a check (/) to indicate your answer on the item. There are no correct or incorrect answers and all responses will be kept confidential.

Extremely Aware – this refers to the very great degree by which you know and understand the skill as well as your application of the skill in dealing with life in the 21st century.

Moderately Aware – this refers to the average level by which you know and understand the skill as well as your application of the skill in dealing with life in the 21st century – you are neither very good or very bad in the skill.

Somewhat Aware – this refers to the small amount or degree by which you know and understand the skill as well as your application of the skill in dealing with life in the 21st century.

Slightly Aware - this refers to the very small amount or degree by which you know and understand the skill as well as your application of the skill in dealing with life in the 21st century.

Not at all Aware – this means that you do not know or understand the skill and you still need to be informed of its concept.

CRITICAL THINKING SKILLS refers to being able to analyze complex problems, investigate questions for which there are no clear-cut answers, evaluate different points of view or sources of information, and draw appropriate conclusions based on evidence and reasoning.					
To what extent do you agree with these statements?	Not at all aware	Slightly aware	Somewhat aware	Moderately aware	Extremely aware
1. I have developed my critical thinking skills.					
2. Most of us in our classroom have learned about critical thinking.					
3. Developing persuasive arguments, perspectives or solutions to problems is one good practice of developing the skill.					
4. We are made by our teacher to compare					

information from different sources before we complete a task.					
5. We are made to brainstorm and draw our own conclusions based on numbers, facts, and relevant information.					

COLLABORATION SKILLS refers to being able to work together to solve problems or answer questions, to work effectively and respectfully in teams to accomplish a common goal and to assume shared responsibility for completing a task.					
To what extent do you agree with these statements?	Not at all aware	Slightly aware	Somewhat aware	Moderately aware	Extremely aware
1. Working in pairs is an activity that enhances collaboration skills.					
2. We create joint products using collaborative efforts from my classmates.					
3. We do peer-assessment in the classroom.					
4. We are made by our teacher to present a topic either by pair or by group.					
5. I believe in the spirit of teamwork.					

COMMUNICATION SKILLS refers to being able to organize your thoughts, data and findings and share these effectively through a variety of media, as well as orally and in writing.					
To what extent do you agree with these statements?	Not at all aware	Slightly aware	Somewhat aware	Moderately aware	Extremely aware

1. I can answer questions in front of an audience.					
2. In our class, we are made to decide on how we will present our works or demonstrate our learning about a certain topic.					
3. Communicating orally is one way of our teacher to assess our communication skills.					
4. Good communication skill is a pre-requisite to being a teacher.					
5. Communication is not only done orally and in written form.					

CREATIVITY AND INNOVATION SKILLS refers to being able to generate and refine solutions to complex problems or tasks based on synthesis, analysis and then combining or presenting what they have learned in new and original ways.					
To what extent do you agree with these statements?	Not at all aware	Slightly aware	Somewhat aware	Moderately aware	Extremely aware
1. I am creative in expressing my ideas through original ways.					
2. Open-ended questions or problems help develop creativity and innovation.					
3. Our teacher lets us generate our own ideas about how to confront a problem or situation.					
4. We are made to test out different					

ideas and work to improve them.					
5. Choosing our own approach to solve a problem is one way of developing creativity and innovation skills within me.					

SELF-DIRECTION SKILLS refers to being able to be responsible for your own learning by identifying topics to pursue and processes for your own learning, and being able to review for your own work and respond to feedback.					
To what extent do you agree with these statements?	Not at all aware	Slightly aware	Somewhat aware	Moderately aware	Extremely aware
1. We are made to develop the skill by letting us choose the topic of learning or questions that we want to pursue.					
2. I take initiative when I am confronted with a difficult problem or question.					
3. We are made to assess the quality of our own work before it is completed using specific criteria.					
4. Peer, teacher or expert feedback is a good source for improving my performance in school.					
5. Monitoring my progress towards completing a task is good for modifying my work accordingly.					

USING TECHNOLOGY AS A TOOL FOR LEARNING refers to being able to manage your own learning and produce products using appropriate information and communication technologies.					
To what extent do you agree with these statements?	Not at all aware	Slightly aware	Somewhat aware	Moderately aware	Extremely aware
1. Using technology or the internet is one way of instructing and educating yourself about certain things.					
2. Using technology is one way of supporting teamwork and collaboration (e.g. multi-media presentations using sounds or video, presentation software, blogs, podcasts, etc.)					
3. I should select appropriate technology tools or resources for completing a task.					
4. Checking the credibility and relevance of online resources is a must before using them for completing a task.					
5. Using technology is one way of sharing information among others.					